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ABSTRACT

In this report, learning conditions in Norwegian workplaces were examined to identify ways of making workplaces more conducive to learning. Data were collected through interviews in 11 firms and a questionnaire survey of 1,300 private sector and 200 public sector employees. Opportunities to learn through work varied widely. Older women with little education had the least learning-intensive jobs, whereas men with long years of education had the most learning-intensive jobs. The highest percentage of learning-intensive jobs was in the oil industry. The lowest percentages of learning-intensive jobs were in the wholesale/retail trades and hotel and restaurant industries. The following factors were identified as promoting learning through work: (1) a high degree of exposure to demands from customers, management, colleagues, and owners; (2) a high degree of exposure to changes in technology, organization, and work methods; (3) managerial responsibility; (4) extensive external professional contact; (5) a good opportunity for feedback from work; (6) support and encouragement for learning from management; and (7) a high probability that skills will be rewarded through interesting tasks, better career possibilities, or better pay. Improving several learning conditions simultaneously appeared the best way of promoting learning through work. Several important advantages in

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certification and quality assurance for companies as learning environments were identified. (Contains 31 tables/figures.) (MN)

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PANORAMA

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A survey of learning conditions in Norwegian workplaces

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Learning-conducive work

A survey of learning conditions in Norwegian workplaces

Sveinung Skule
Anders N. Reichborn

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Preface to English edition

Making learning visible has been a Cedefop focus for some years and particularly identification, assessment and recognition of non-formal learning. The present study deals with the learning environment at work in an explorative way and its findings add to the information gained through former work, such as *Making learning visible* (Cedefop 2000) and other reports.

The European Commission's Memorandum on Lifelong Learning led to a wide debate on the issue within Europe, both at national level as well as among different non-governmental organisations. This debate highlighted the value of the workplace as a learning environment with which most people have significant contact. The social partners, companies and training organisations have all been focusing on lifelong learning (LLL) since the early 1970s, and a lot of research has been delivered with respect to different venues for learning.

Today, the workplace is often regarded as the most important place to learn, not only for those without formal schooling or education, but also among those with higher qualifications. According to a study by Lee Harvey at the Centre for Research into Quality in the UK, graduates need to gain a lot of learning at the workplace to be productive. The study concludes that the workplace is the most important place for learning.

It is a common interest of many employers, employees and educational planners in Europe to discover more about learning at work and to promote such a form of learning. Learning-conducive workplaces and the design of learning conditions at the workplace may offer new and added value to this discussion.

The FAFO report gives a good picture of learning activities at the workplace in Norway. As expected, the report shows that learning conditions vary between branches, between individuals with different educational backgrounds and qualifications as well as between men and women. Norway has had, and still has, a rather tight labour market which might influence the findings of the study in different ways. In sectors lacking qualified staff, companies tend to pay more attention to training.

While we may assume that the situation in Europe is more or less similar to what the FAFO study shows, we also know that within Europe the situation differs a lot between countries, both regarding organisational structures, levels of education, gender composition and the structure of labour market. By getting comparative information from other countries we might be able to tell what influence these national and cultural differences have on the learning process.

Regarding learning-conducive work, Cedefop is very interested in taking the concept further and would be happy to participate and give whatever possible support to future national studies. This report written by FAFO and published by Cedefop is to be further developed in fitting the model to national needs.

The fact that different organisations offer rather different circumstances for learning is well known. Many of the findings of the FAFO report confirm what other studies have shown about exactly under what conditions, what type of work and former qualifications are most conducive to learning. What makes the findings interesting, is that people who are asked about their own experience confirm that there are differences between sectors, hierarchical position, former education and the amount and quality of learning at the workplace.

Cedefop has published this report because the findings might be of relevance to other countries and because they have a bearing on other issues, such as non-formal learning and the recent ongoing discussions on lifelong learning. The report points out that we might be able to identify and create conditions to improve the concept of learning-conducive work at any workplace, leading to a possible future situation where companies might realise the importance of the organisation as a venue for learning and how to act to promote such a learning environment as a competitive advantage.

Of course it is not certain that every employee will appreciate a learning-conducive workplace. Nor is it certain that employers will be willing to design the workplace to maximise learning. However, if we presume that people do not necessarily know they are learning, they still learn and they might even enjoy it. As a business concept it may sound cynical but it could succeed. If we look into some of the most successful stories of service providers, some organisations can appear as learning organisations at first glance. The point is not to be satisfied with limited learning schemes but to embrace a wider lifelong learning notion to the benefit of both sides.

To follow this up with further studies into specific sectors showing highest and lowest levels of learning at work might be useful. Add to this a quality approach, looking into the learning process, might make it possible to discern if learning environments are possible to design at any workplace and perhaps increase knowledge on how to design a learning-conducive work environment. The challenge, of course, would be the problem of measuring learning as an informal process.

Cedefop, Thessaloniki
12 September 2001

Johan van Rens
Director

Foreword

The purpose of this report is to give a brief and accessible presentation of the results of a major survey of learning in Norwegian workplaces. An annex containing more detailed information on the data and statistical measurements used is available at:

www.fafo.no/pub/rapp/333/

At the time of writing, the annex is available in Norwegian only. Fafo's publications department will send a copy free of charge.

We would like to express our thanks to Helge Halvorsen and Helge Løvdal of the Confederation of Norwegian Business and Industry, and Arne Pape, Kristine Nergaard, Dag Olberg and other colleagues at Fafo for their helpful comments and input along the way. The authors, of course, take full responsibility for the results and conclusions.

The report was commissioned by the Confederation of Norwegian Business and Industry. The survey and the report were carried out jointly by Fafo and In Mente AS.

Oslo, May 2000

Sveinung Skule

Anders N. Reichborn

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Preface by authors

The background for this report is the Norwegian work on a major reform of the system for continuing and further education and lifelong learning – the so-called competence reform. Through close cooperation between employers and employees as well as Norwegian education authorities, a number of concrete measures and development projects have been established with a view to stimulating learning and competence development throughout the adult population. The active commitment of the employer associations and trade unions has helped to put the focus on the workplace as a venue for learning in this tripartite collaboration on lifelong learning. Unlike previous reform work carried out under the auspices of the Norwegian education authorities, the work on the competence reform has been based on a broad concept of learning, and embraces not only learning within the educational system but also via informal and non-formal learning in the workplace. An important part of the reform work consists of developing new systems for documenting actual competences, and for recognising, approving and certifying this type of informal and non-formal learning.

However, establishing good approval systems requires knowledge of the scope of this kind of learning, for instance, how it is distributed between different groups of employees and its significance for both employees and employers. Also important is familiarity with the properties and mechanisms of organisations, workplaces and jobs which form framework conditions and set the prerequisites for this type of learning and which further have a decisive impact on the intensity and quality of the workplace as a venue for learning. It is the accumulation of this type of knowledge and the associated need to develop better methods for measuring, evaluating and quality-assuring the workplace as a venue for learning that constitutes the main purpose of the survey and hence this report.

The survey is based on two earlier surveys conducted by Fafo and In Mente which were also financed by the Norwegian Confederation of Business and Industry, the largest employers' association in the private sector. The first survey showed, through extensive mapping of Norwegian employee participation in different types of learning, that learning at work is an extremely important source of competence development, both as regards daily work and the employee's value in the labour market. The second survey, which also included a wide-ranging sample of private sector companies, showed also that employers attach great importance to the impact of informal and non-formal learning on production and quality. Moreover, the surveys indicate that both employers and employees attach special value to documentation schemes that do not just document previous learning, but also motivate employees to further learning efforts at work and elsewhere.

Unlike the debate in some other countries, the Norwegian debate about systems for documenting actual competence acquisition has not been limited to accrediting informal and non-formal learning as a way of shortening the length of time spent in the formal education system. In Norway, there has been marked interest in developing systems and institutions to

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promote work-based learning, and in the possibility of quality-assuring the workplace as a valuable venue for such learning. Measurement and quality assurance are useful tools to enable incorporation of the workplace as a recognised learning environment for standardised learning pathways and at the same time provide individuals with a genuine opportunity to improve and develop lifelong competence growth.

It is this aspect of the debate about new schemes for documenting actual competence acquisition that forms the backdrop in the final chapter for discussion on the purpose and design of such systems.

Oslo, March 2001

Sveinung Skule

Anders N. Reichborn

Summary

The purpose of this report is to increase our knowledge of the conditions that characterise learning-conducive work and discuss how this knowledge can be used to promote and document such work.

The workplace as a place for learning is a focal issue in the competence debate. Traditionally, the discussion about the need to develop competence has centred on education and organised training. However, there is growing recognition of the importance of the workplace, not only as a recipient of the competence produced in the educational system, but also as a place for learning and an independent producer of competence. Several surveys have shown that employees themselves believe that they have acquired most of their productive competence through their work – not through the educational system – and that employers share this view.

In an economy where the ability to learn and the renewal of competence are becoming increasingly important competitive factors for companies, and where documented competence is becoming more and more vital in the job market, it is crucial to promote, systematise and document this informal production of competence.

A more systematic and efficient utilisation of workplaces as places for learning will require a better understanding of what characterises the production of competence in this arena.

The report is based on two types of data. Informant interviews in 11 firms, and a questionnaire survey of 1 500 employees - 1 300 in the private sector, and a comparison group of 200 in the public sector. This report deals mainly with the private sector.

Learning-conducive work: In this report we have used three components for measuring learning-conducive work:

(a) employees' own perception of how much they learn at work;

(b) the durability of the competence, measured in terms of how long employees can stay away from the workplace and still remain professionally updated;

(c) how difficult it is to master the work, measured in terms of on-the-job training time.

Learning-intensive work is work that scores high on all three components.

Low learning-intensity work is work that scores low on all three components.

The opportunity to learn through work is not evenly distributed.

- Older women with little education have jobs with the lowest learning intensity. Men with long years of education have the most learning-intensive jobs.

- The oil industry is one with the largest percentage of learning-intensive jobs. The wholesale and retail trades and the hotel and restaurant industry have the largest number of jobs with low learning-intensity Companies that experience the keenest competition and larger companies have a greater proportion of learning-intensive jobs than others.

- All things being equal, neither gender, education, the competitive situation, size of company nor type of industry are particularly significant when it comes to the opportunity to learn through work. It is the various properties of work – what we call learning conditions – that are most important in explaining the differences in the opportunity to learn through work.

Learning conditions: in the survey we have identified seven different factors that promote learning through work.

(1) High degree of exposure to demands from customers, management, colleagues and owners.

(2) High degree of exposure to changes in technology, organisation and work methods.

(3) Managerial responsibility.

(4) A lot of external professional contact.

(5) Good opportunity for feedback from work.

(6) Support and encouragement for learning from management.

(7) High probability that skills will be rewarded through interesting tasks, better career possibilities or better pay.

We call these learning conditions because they occur frequently in the most learning-intensive jobs, and far less frequently in jobs with low learning-intensity. low-learning jobs. The list is not exhaustive, but indicates important conditions for creating learning-conducive work. Learning conditions constitute a tool that enables us to describe the learning environment for industries, groups of companies or groups of employees.

The survey indicates that the best way of promoting learning through work is to improve several of the learning conditions simultaneously. Responsibility, demands and pressure from surroundings, combined with good access to learning resources, support and rewards, are the most encouraging conditions.

Employees' own needs for development of competence can be roughly divided into three. A third linked their need for greater competence to a desire for formal continuing education and further education, another third preferred short courses, while the remaining third wanted shorter working hours. Distribution of preference for the three learning options is relatively stable regarding education, trade and gender, but interest in formal education decreases with

age and is lower among those with little previous education. The desire to become better at one's own job is clearly the most important motive for acquiring new competences, while the desire for a stronger position in the job market is also important to many.

Four in 10 have acquired real competence through their work, which they would like to see formally recognised. The objectives of new certification schemes should be extended to meet the needs of employers and companies. In addition to the provision of a basis for admission to and the shortening of educational courses and the facilitating of mobility in the labour market, the objectives of certification schemes must also include promoting a learning environment in companies.

Learning conditions can be used as a tool in the work on formal recognition of actual competence, for example, forming the basis for deciding which requirements should be made for a workplace to be certified as a venue for learning within a specific education or occupation.

There are many advantages in certification and quality assurance for companies as learning environments.

- They facilitate the use of the model for practical experience candidate schemes in new disciplines and occupations.
- They enhance the reliability of other formal recognition schemes by including information about the learning environment inside the company.
- They provide support for recognition of the company as a place of learning and encourage companies (and the education system) to utilise workplaces more extensively as learning venues.
- They include all employees, not only those who personally take the initiative to enhance their formal competence.

Introduction

1.1. The workplace as a place of learning

This report is the third in a series of reports that illustrate how Norwegian companies are working on competence development. What measures are companies taking? What determines their decisions and practices? Where does learning take place, and who participates in the various kinds of learning schemes? The first two reports show that companies are considerable producers of competence. They also show that employees themselves believe that they have learned most of what they know through work – not through the educational system or courses. This report concentrates on the workplace as a venue for learning and attempts to discover what underlies the findings presented in the first two reports.

1.2. Employees regard their workplace as the most important venue for learning

In the first survey we asked employees how they had acquired their knowledge.

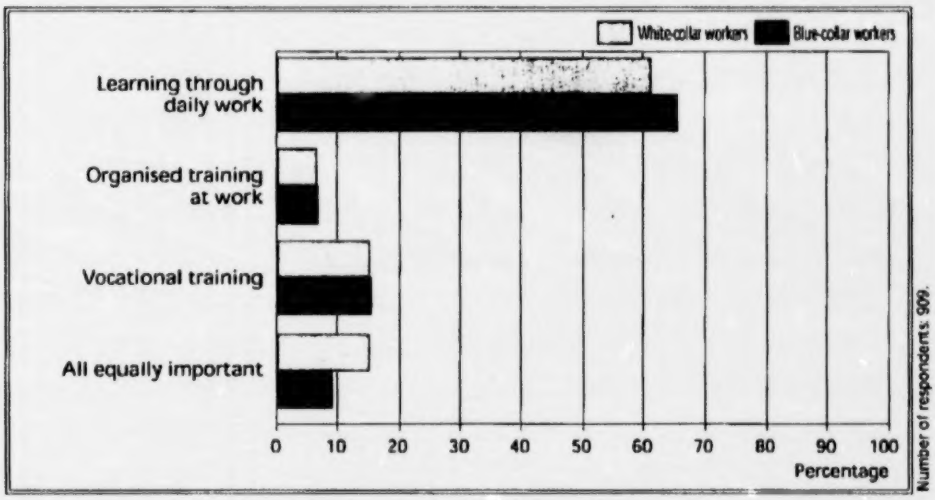

Diagram 1

Diagram 1 shows what Norwegian employees consider to be the most useful source of knowledge when applying for new jobs. The results are presented in the report entitled *The workplace as a venue for learning*. Fafo report No 212.

Both blue and white-collar workers cite their daily work as the most useful source of knowledge. Two out of three quote learning through daily work as the most useful source of knowledge for them personally. The results are based on a nationwide representative sample of employees. The question addresses a situation in which the employee has a clear need to present what he or she actually knows – in connection with an application for a new job. Learning through daily work is by far the most common answer and recurs across all the different vocational categories.

In the opinion of the employees, vocational education in the school system and organised training in the workplace are much less important. Vocational education is most important for skilled operators and somewhat less important for white-collar workers, both at management level and other levels. Fewer than one in ten cite organised training at the workplace as most important. In this case, the variations between the different vocational groupings are small.

1.3. Employers believe practice is best way of learning

In our next survey we asked employers whether they agreed with the employees about the importance of learning through work.

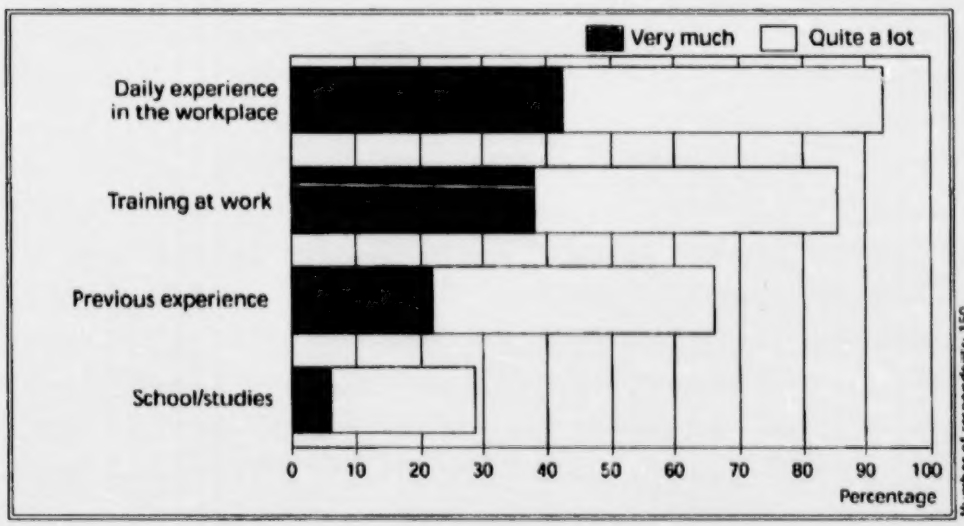

Diagram 2

Diagram 2 shows employers' view of the importance of different learning methods in terms of the production staff's ability to do a good job. The results are presented in the report entitled *Certificate of own skills*. Fafo report No 245.

Employers confirm the general impression that it is daily work that counts most in competence acquisition. Diagram 2 above shows the results of a questionnaire survey of 150 companies with more than 20 employers affiliated with the Confederation of Norwegian

Business and Industry. Nine in 10 state that the competence developed through daily practice means a great deal to the employee's ability to do a good job.

Employers attach more importance to internal training than employees do, yet their emphasis on the importance of employees' previous experience shows that they also confirm the importance and value of daily work. School and studies are, on the whole, assigned as least important, but this varies a lot depending on the vocational and educational groups involved. In the case of managers and highly educated specialists, school and studies are ranked more important.

1.4. The workplace as a venue for learning

The first two surveys highlighted the importance of the workplace as a venue for learning. In this report we go a step further and investigate which conditions at work (company/workplace environment) have the greatest impact on the opportunity to learn through work.

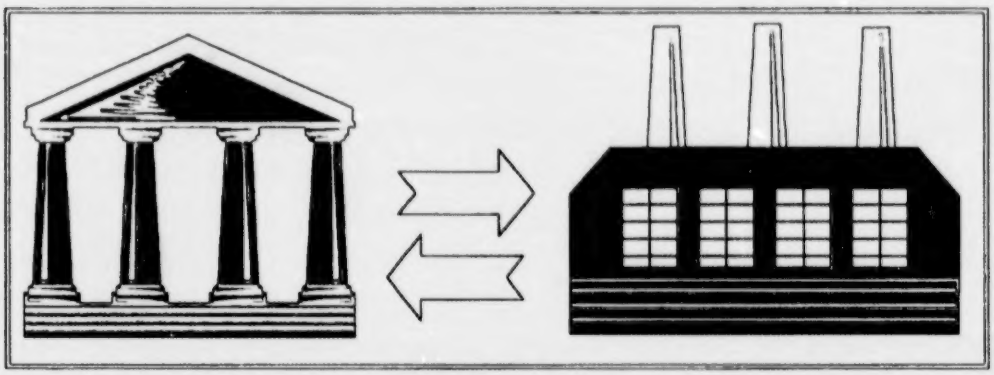

Diagram 3

Learning takes place both in the educational system and in the workplace. This is documented with a view to improving the interplay between the two.

Organised training and learning through work both occur in the workplace. What distinguishes learning through work from organised learning? What can be done to strengthen recognition of competences acquired as an integrated part of work?

Organised training only accounts for part of the total array of actual competence in society. The main demonstration actually takes place under working conditions. An important challenge in competence development will be to make it apparent that workplaces are not only producers of goods and services, but also where a substantial amount of learning takes place. In facing this challenge, we must be able to define the distinguishing features of that part of competence development which is absorbed as a direct result of daily work and exposure to new things.

While workplaces are major sources for competence growth, well thought-out teaching methods are not necessarily involved. There are great variations between companies, and to increase recognition of this type of learning, we need to find out more about what makes one company a good learning venue and another a poor one.

Quality assurance is an important prerequisite for the recognition of learning through work. In traditional educational activities we have a number of established systems for describing the institutions, the learning processes and the outcomes of learning. We do this by approving schools, curricula and tuition plans and by means of tests and examinations. In a company setting, competence becomes visible primarily through results and the quality of daily production but, here too, learning can be tested in several ways. In vocational education, skills are proven through evaluation of a specific task.

The apprenticeship scheme is based on the approval of apprenticing businesses. Various types of certificates and references are also issued.

Quality assurance of the conditions for learning at workplaces would increase the recognition factor and make for more effective use of the workplace as a valuable venue for learning. However, what requirements should be met by such learning processes? How should they be organised? Which organisational characteristics impede or promote learning?

In other words, we must know what the conditions are for learning-conducive work. As a starting point, we can assume that the factors influencing how much learning takes places in a given job, are linked to:

(a) the personal qualities of the person doing the job;

(b) the characteristics of the job, the company, the environment in which the person works, including organisation, production, market and surroundings.

In this report, we are primarily concerned with the characteristics of the job, the company and the environment. We concentrate on the organisation as a framework for learning and investigate which conditions provide good learning opportunities. By identifying important learning conditions, we develop the dimensions which can be used to measure the learning environment and thus construct a tool for managing the scope, variation and distribution of learning through work.

The most important objective of the survey is to increase our knowledge of how learning at work actually takes place, and which qualities characterise learning-conducive work. We also examine how learning-conducive work is distributed in Norwegian workplaces and discuss how documentation of actual competence and quality assurance of learning through work can contribute to the promotion and utilisation of the workplace as valuable learning environment.

2. What is the survey based on?

The survey in this report is based on personal interviews conducted in 11 companies and a questionnaire survey of 1 500 employees.

The survey in this report is based on two types of data:

(a) qualitative interviews in 11 companies (see Section 3);

(b) a questionnaire survey of 1 300 randomly selected respondent employees in the private sector and 200 in the public sector. The survey was carried out between 10 February and 9 March 1999.

The questionnaire survey deals with what is normally referred to as the permanent part of the workforce, i.e. employees who:

- are over 18;
- are in permanent employment;
- have held their present jobs for at least six months;
- work more than 15 hours per week.

Self-employed persons, farmers and those working in the areas of education and research are not included in the survey. All in all, those groups not embraced by the survey amount to approximately 20 % of employees in the private sector. The survey is representative for the remaining 80 % with the following minor reservations:

- the very youngest and very oldest groups are underrepresented in the survey. These groups have expressed less willingness than others to take part. The 25 to 29 age group is somewhat underrepresented, while the under 25 age group is clearly underrepresented. The over 65 age group is slightly underrepresented;
- the wholesale and retail trades and the hotel and restaurant industry are underrepresented. This might be explained by the fact that these sectors have many temporary and part-time employees and a large turnover of personnel, i.e. groups not participating in the study. The oil and mining industries, on the other hand are somewhat overrepresented.
- education are slightly underrepresented, while the groups with 1 to 3 and 4 to 6 years of upper secondary and higher education are slightly overrepresented.

The youngest employees, those with only basic school education and employees in the wholesale and retail trade and hotel and restaurant industry have (as demonstrated in Chapter 4) a poorer than average learning environment at work. The fact that these groups are underrepresented means that the positive factors of the learning-conducive work environment are slightly exaggerated in our figures. Underrepresentation of those with the longest education happens for the opposite reason, as this group

usually has a better learning environment with more learning-intensive jobs than other groups. This results in a certain 'grouping together in the middle.' In reality, we can assume that the differences in learning-conducive work environments between Norwegian workplaces are somewhat greater than our figures indicate.

For the public sector, we included 200 respondents as a comparative group. This number is too small to be able to tell very much about the various subgroups in the public sector. It is also important to remember that teachers and other research and educational personnel, who are an important group of public-sector employees, did not take part in the survey.

Where the sector is not specified, we refer to the private sector. When referring to the public sector, we do so specifically.

An annex containing more information on the source of the data, an explanation of different statistical methods and techniques used in the survey, as well as comments on individual chapters, is freely available at:

http://www.fafo.no/pub/rapp/333/

The annex will also be sent free of charge upon request to Fafo's publications department. Researchers and others interested in further details of the data and methodology used are referred to the annex. However, as of the time of writing, the annex is available in Norwegian only.

3. The search for learning-conducive work

To find out which conditions are important for learning at work, personal interviews were conducted at 11 different companies. The aim was to obtain the views of management and employees on what actually constitutes competence and how it is developed. What characterises a learning-conducive job and how does it manifest itself? Who has work that offers good learning opportunities and what makes the work learning-intensive?

3.1. Companies and groups of employees

The aim of the interviews conducted in the 11 companies was to arrive at concepts and questions that could be used as the basis for a larger questionnaire survey. The subject of the interviews was learning conditions for selected categories of employees.

Company/organisation	Vocational groups
Saga Petroleum	Drilling engineers
Asker municipality	Engineers, technical department
Ekornes	Furniture workers, mass production
Stokke Industrier	Furniture workers, project production
Norsk Hydro Sunndalsøra	Process operators
Scana Industrier	Scaffolders offshore
NKL, Mega retail store	Shopworkers
New Media Science	Programmers, system architects
Kreditkassen, Christiania Markets	Brokers, analysts
Asker Tax Office	Tax officers
Kongsberg Intec	IT consultants/sellers

Diagram 4

Diagram 4 shows the companies and vocational groups who were interviewed. The companies/organisations were selected to provide a good variety of vocational groups. We concentrated on well-defined groups of employees because we found that, even within the same company, there could be major differences in the learning environment between different groups.

For two groups of employees, engineers and furniture workers, we chose to examine the same groups in two very different company environments.

In each company, four to eight persons were interviewed from the selected group of employees, management, employee representatives and human resources.

3.2. Proficiency and the opportunity to learn

The point of the interviews was to find out what people regarded as learning-conducive work. What does that sort of work entail and what does it signify? What concepts are used?

Qualities/experience:	**We can offer:**
• Good with people. • Independent, show initiative and like to cooperate. • Experience from power companies on the grid, e.g. planning. Qualified in GTS or IT.	• Stimulating and challenging work. • Good opportunities for development in a restructuring-oriented company in an interesting sector. • Competitive terms. • Good pension and insurance schemes.
Qualifications: Engineering degree, electrical power or similar Experience gained from a power company may compensate for lack of formal education.	**We offer:** • Varied, interesting and demanding work in a professionally stimulating environment. • Good development opportunities – both in personal and professional terms. • Further career opportunities both in Norway and abroad. • Work with modern equipment and software.

Diagram 5

Advertisements are often a good illustration of the requirements of the business community. Educational qualifications cover only part of the requirements. The offer of challenging work and good personal and professional development opportunities demonstrates that companies see themselves as important arenas for learning.

The interviews show that companies think about competence-building in operative terms. Learning through work, often referred to as 'experience,' leads to proficiency, and that, in turn, is all about accomplishing something at work. Performance capability, or what we might term the ability to act, is central to companies and employees.

In our search for learning-conducive work, we were concerned with how experience was utilised, the correlation between experience and learning, and what was typical of those experiences which could be learnt from.

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We found clear differences in the ways in which learning manifested itself in various sectors and companies. In some places, learning requirements were dramatically to the fore, as in the replacement of production equipment or a switch-over to new products. In other places, learning was hidden and more difficult to define, for instance where several decades of professional pride and craft traditions were 'built into the fabric.'

The driving forces behind learning and what form it takes may vary, but can still lead to excellent learning for the individual. The interviews form a pattern in respect of what characterises learning-conducive work. When people describe their jobs, there are three factors that are often mentioned:

(1) **The individual perceives his/her situation as instructive**. We found that people's motives for learning were, to a large extent, linked to the need to master everyday situations. There is reason to believe that when people say they are left with the feeling of having learned something, it is related to this. What they have learned, and how much, varies greatly. What some may regard as banal or simple, others perceive as stimulating and useful. Or the reverse, when people describe their jobs as not very conducive to learning, they go on to state that they have already mastered all there is to be mastered, and that is the end of the matter.

(2) **The situation or work is characterised by change**. This is expressed in phrases like 'always something new,' and requires people to acquaint themselves with new conditions, reorganise their routines, or deal with unexpected issues. One illustration of this type of learning is programmers and system architects in new media science, who emphasise how important it is to keep up, participate in different professional milieus and develop a national and international network just to stay abreast of developments. Alternatively, the opposite can occur, where new things seldom happen.

(3) **The work is perceived as being difficult to learn or requires continuous study**. People learn from things that are complex or require continuous improvement. They may be multifaceted or difficult matters or they may involve shades of difference in the gradual refinement of work processes and products. The latter is often related to what we call hidden or tacit competence, that which is often difficult to express in words. Over time, people develop skills, special insight, a deeper understanding or an ear for what will produce results over and above the norm. Less instructive jobs seem to contain fewer of these elements. When a furniture worker describes how important it is to develop a good rhythm of work, and a tax officer emphasises the importance of having a 'nose' for where to carry out inspections, it is this kind of learning they are talking about.

It is on the above three perspectives we have based the construction of a measure for learning-conducive work.

3.3. A measure for learning-conducive work

Based on certain factors emphasised by the respondents, we developed a measure for learning-conducive work which combines the following three components.

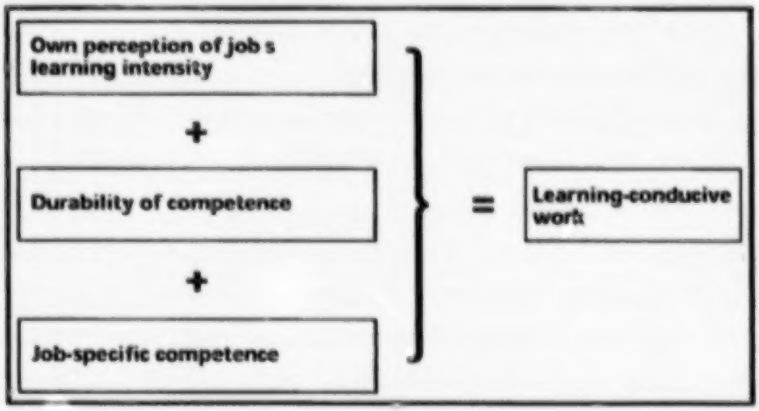

Diagram 6

Own perception of job's learning intensity. This expresses a person's overall impression regardless of whatever form learning takes. We have chosen to let this component weigh heaviest because it embraces all aspects of the learning process as perceived by the individual, while at the same time incorporates both high and low-level learning in terms of competence. It constitutes 50 % of the composite measure for learning-conducive work.

The durability of competence learned. This component covers how often changes occur and how comprehensive or fundamental they are. It also embraces competences that 'gets rusty' fast, if not maintained. We have measured the durability of competence by asking how long people can be away from work and still remain professionally updated. This component covers only a narrow segment of learning through work, and we have therefore decided to let it constitute a smaller proportion, 25 %, of the composite measure of learning.

Job-specific competence, measured in terms of the length of training required if you have a suitable educational background on entering the job. This component tells us how difficult it is to learn a job, or how much experience is needed to master it satisfactorily. It represents the final 25 % of the composite measure of learning, because it also only covers part of what is learned.

The fact that work is either learning intensive or with a low learning intensity does not tell us how much learning actually takes place *in individuals*, but it does tell us about the conditions for learning that are characteristic of *the job*.

In the survey, the three components were measured through three separate questions. The replies express the personal views of the participants, so the measure of learning-conducive work is thus largely subjective. Different people may have different perceptions of how learning-intensive a job is, just as they may differ as regards how stressful it can be. The preliminary interviews show that learning and the learning environment are difficult to describe in a succinct manner without such subjective views weighing heavily in each case. In the report, when we speak about learning-conducive work within an industry/sector, this expresses the average evaluation of the three components for the industry/sector in question.

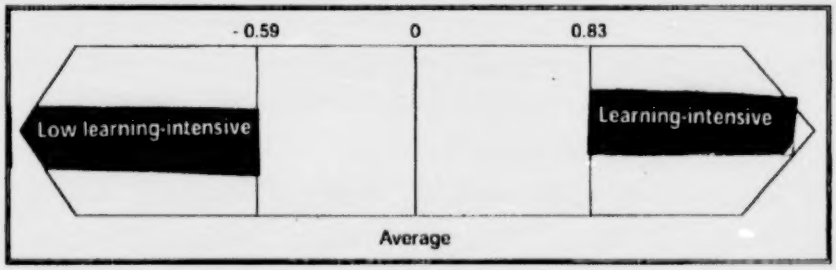

Diagram 7

The overall measure of learning-conducive work is designed to vary across a scale in which the average job scores 0. In the survey, we examine in particular the group which scores highest and the group which scores lowest on this scale. We have designated these as learning-intensive and low learning-intensive work respectively, and have chosen to define them as follows:

Learning-intensive work comprises the highest scoring quarter on the scale of learning-conducive work. These are jobs perceived by their occupants to be most instructive, which take the longest time to master and in which competence becomes outdated quickest. On the scale, learning-intensive jobs vary from 0.83 up to the highest score among the survey participants, i.e. 1.82.

Low learning-intensive work comprises the lowest scoring quarter on the scale of learning-conducive work. These are jobs perceived by their occupants to be the least instructive, which take the shortest time to master and which have the longest durability of competence. On the scale, low-learning jobs vary from -0.59 down to the lowest score among the survey participants, i.e. -4.08.

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4. Learning-conducive work: distribution in Norwegian workplaces

In recent years, we have gained a lot of knowledge about the scope and distribution of courses, organised training and further training in Norwegian workplaces. Much less is known about opportunities for learning through everyday work. How common are workplaces where the conditions for learning are good? In what kind of companies and in which industries do we find learning-conducive work? In large or small companies? In companies facing stiff competition or companies that only face limited competition? How is learning-conducive work distributed among different groups in the labour market? Is it the youngest or the oldest employees who have the best opportunities for learning through work? Men or women? Those with a long education or those with little education?

4.1. Highly educated men have the most learning-intensive jobs

Who gets the jobs with good learning conditions – men or women, old or young, those with lengthy or those with little education?

Diagram 8 shows the percentage of people in learning-intensive jobs, and the proportion in low learning-intensive jobs for each level of education. The proportion of jobs which score around average is not included.

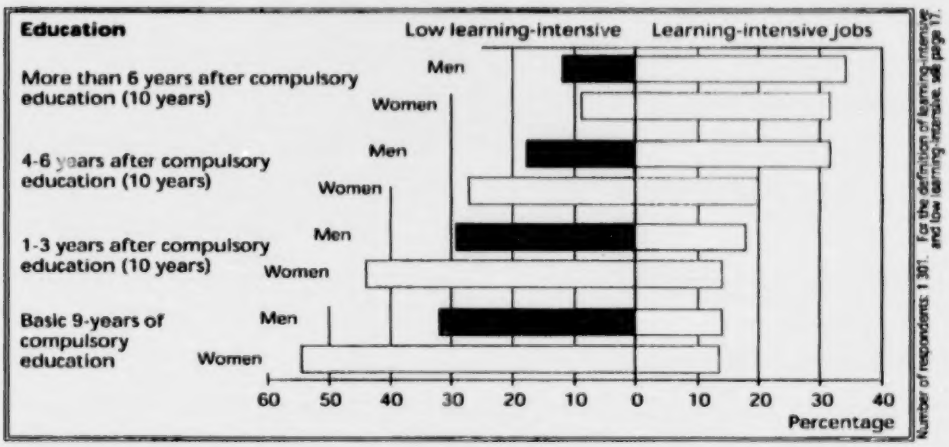

Diagram 8

Education is the most important passport to learning-intensive jobs. However, good learning conditions at work are not a matter of course, even if you have a long education.

Those who lose out in the educational system are also the losers in the struggle for the most stimulating and instructive jobs. If those with little education are also in low learning-intensive jobs, work ,as a venue for learning, will not substitute as a good alternative to school-based learning.

There are clear differences between the sexes. For all levels of education, men have more learning-intensive work than women on average, but the difference is least for the highest level of education. The difference may be due to the fact that men get more stimulating and instructive jobs than women with corresponding educational background. Many jobs allow room for personal adjustment, and part of the difference between the genders may be due to the fact that women to a lesser extent than men, choose to form their jobs in such a way that its learning intensity is high.

Older women with little education have the least learning-intensive jobs. Older men have somewhat more learning-intensive jobs than younger men. Men continue to encounter (or choose) challenges and learning opportunities after the age of 45 to a somewhat greater extent than women.

Both the differences between the sexes and the difference between those grouped according to level of education follow the same pattern in the public sector.

4.2. The oil industry has the largest proportion of learning-intensive jobs

How is learning-conducive work distributed between different industries/sectors? Which industries/sectors contribute most to developing their employees' intellectual capital through work that is instructive and contributes to competence development? Is there any difference between the private and public sectors?

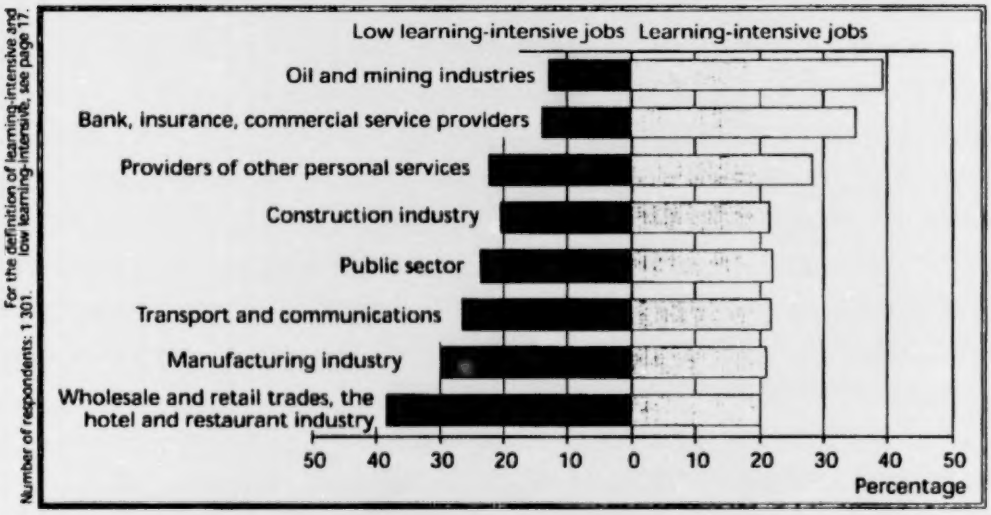
Low learning-intensive jobs
Learning-intensive jobs
Oil and mining industries
Bank, insurance, commercial service providers
Providers of other personal services
Construction industry
Public sector
Transport and communications
Manufacturing industry
Wholesale and retail trades, the hotel and restaurant industry
50 40 30 20 10 0 10 20 30 40 50
Percentage
For the definition of learning-intensive and low learning-intensive, see page 17.
Number of respondents: 1 301

Diagram 9

Diagram 9 above shows the percentage of employees in each industry who have learning-intensive jobs, and the percentage who have low learning-intensive jobs. The percentage with jobs scoring around average is not included.

The oil and mining industries, and financial and commercial service providers stand out in having a high percentage of learning-intensive jobs. The wholesale and retail trades and the hotel and restaurant industry have a large percentage of low learning-intensive jobs. Had the survey also included short-term employees and employees working less than 15 hours a week, the percentage with low learning-intensive jobs in this industry would probably have been considerably greater.

The differences between the other sectors are relatively small. In most sectors it is therefore possible to get a job that provides good opportunities for learning and development.

Viewed as a whole, the public sector has roughly the same percentage of learning-intensive jobs as the private sector.

4.3. Companies exposed to competition have the greatest percentage of learning-intensive jobs

What role does exposure to competition and the size of a company play as regards learning opportunities for employees?

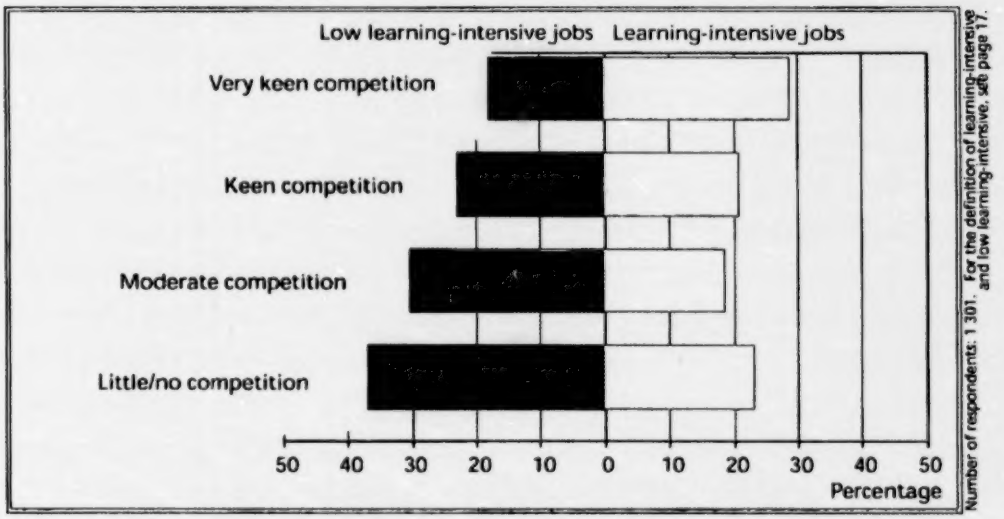
Low learning-intensive jobs
Learning-intensive jobs
Very keen competition
Keen competition
Moderate competition
Little/no competition
50 40 30 20 10 0 10 20 30 40 50
Percentage
Number of respondents: 1 301. For the definition of learning-intensive and low learning-intensive, see page 17.

Diagram 10

Diagram 10 above shows the percentage of employees with learning-intensive jobs and with low learning-intensive jobs in companies exposed to varying degrees of competition.

Companies experiencing the keenest competition have the greatest percentage of learning-intensive jobs. This can be explained in part by the fact that customers and management make greater demands, and technology changes more frequently in companies facing keenest competition (see page 31). Such changes demand constant acquisition of new knowledge and skills by employees.

The differences between the other groups are not great, but the tendency is for companies facing less competition to have a higher percentage of low learning-intensive jobs. There are, however, quite a few jobs offering good learning opportunities in these companies.

4.4. The biggest companies have most learning-intensive jobs

Many people apply for jobs in large companies in the hope of finding a good environment for learning and development. But what does the size of the company actually mean in terms of the job's learning content? Do we find more learning-intensive jobs in small or in large companies?

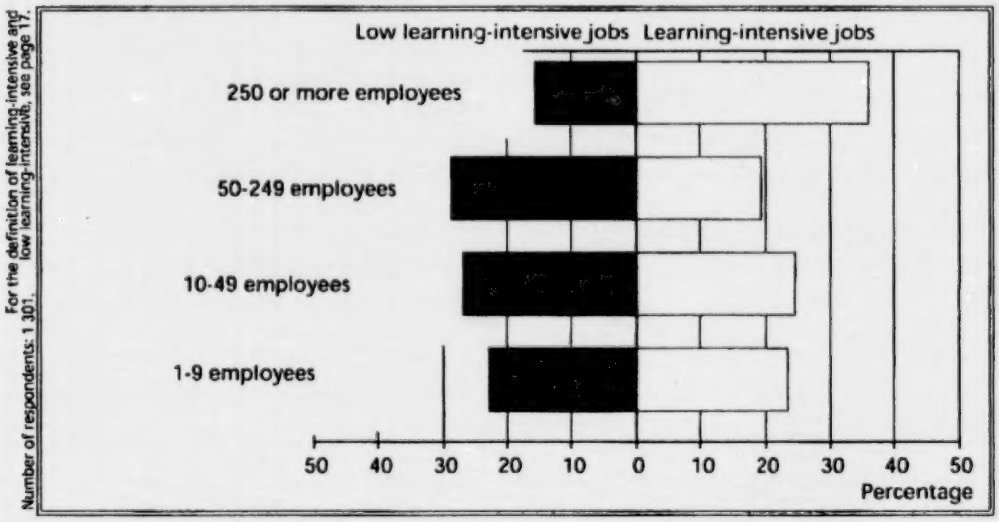

Diagram 11

Diagram 11 above shows the percentage who have learning-intensive jobs and the percentage who have low learning-intensive jobs in companies of various sizes.

The size of the company means very little for the opportunity to learn through the job, but companies with more than 250 employees have a somewhat larger percentage of learning-intensive jobs. The largest companies probably tend to have customers, suppliers and professionally expert milieus that trigger important learning impulses in the employees. In the public sector too, learning intensity is greater in companies with more than 250 employees.

Learning intensity at work is greatest in companies that have to fight hard to recruit employees. Half of the employees state that they have jobs where the provision of good opportunities for updating and learning is a vital weapon in the fight to attract the right people. Only 7 % say that the opportunities for learning have no impact on recruitment. There is a strong correlation between what jobseekers 'demand' in the way of learning opportunities at work and places where learning-intensive work is to be found. The demands of jobseekers for good learning opportunities is probably a major reason why companies endeavour to create the right conditions for learning and development at work. This trend will presumably become more marked when the labour market is tight.

5. Learning Conditions: what characterises learning-conducive work?

What are the distinguishing features of learning-conducive work? Is it possible to identify any characteristics of companies or jobs that are particularly instrumental in encouraging learning through work? In this chapter we analyse the results of the survey and identify some of the conditions that promote learning - learning conditions - which are prevalent in learning-intensive jobs but thin on the ground in low learning-intensive jobs. These learning conditions provide us with knowledge of how we can create jobs and form organisations that promote learning through work.

5.1. Customer demands require learning

The first important characteristic of learning-intensive jobs is that they are invariably more demanding on their occupants. But what type of learning-demands are most prevalent in Norwegian workplaces, and which demands are most closely linked to learning-conducive work?

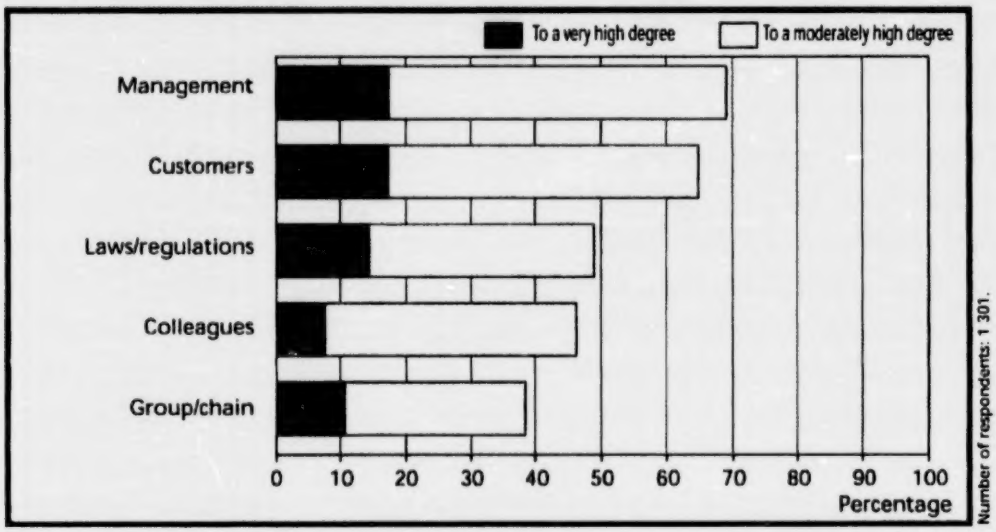

Diagram 12

Diagram 12 shows the degree to which workers are subjected to demands from various quarters which entail their having to acquire new knowledge and skills.

Demanding customers are one of the most important driving forces behind learning. Persons subjected to the strongest demands from customers are those who themselves perceive their jobs as most learning-intensive. Men are more frequently subjected to demanding customers than women.

Most employees are exposed to demands from management that require constant renewal of their competence. If an employee has no direct contact with customers or users, customer demands are often communicated by managers. Surprisingly, many also find that new laws and regulations mean they have to renew their knowledge and skills.

Colleagues also make demands that promote learning. Proficient colleagues are often the most important communicators of the professional standards applicable to their sector, profession or company. Having to live up to these standards may be perceived as a demand. In this way, colleagues act as internal customers, communicating demands from external customers. Almost half of the working population agrees that their colleagues make demands, leading them to acquire new knowledge and skills.

Six in 10 feel that demands for greater competence have increased over the last five years. A third notice little change, while only two in a hundred think demands have diminished in volume. Employees in companies with more than 250 employees, those aged over 45 and those without managerial responsibility notice the greatest increase. This may be an indication that responsibilities and learning opportunities are delegated within companies. In the public sector, just as many employees experienced increased demands.

5.2. Technological and organisational changes require learning

Another characteristic feature of learning-intensive jobs is the increasing exposure of employees to constant changes in technology and organisation. Renewal of knowledge and skills is linked to such changes.

Diagram 13 shows how often employees are exposed to changes, leading them to acquire new knowledge or skills.

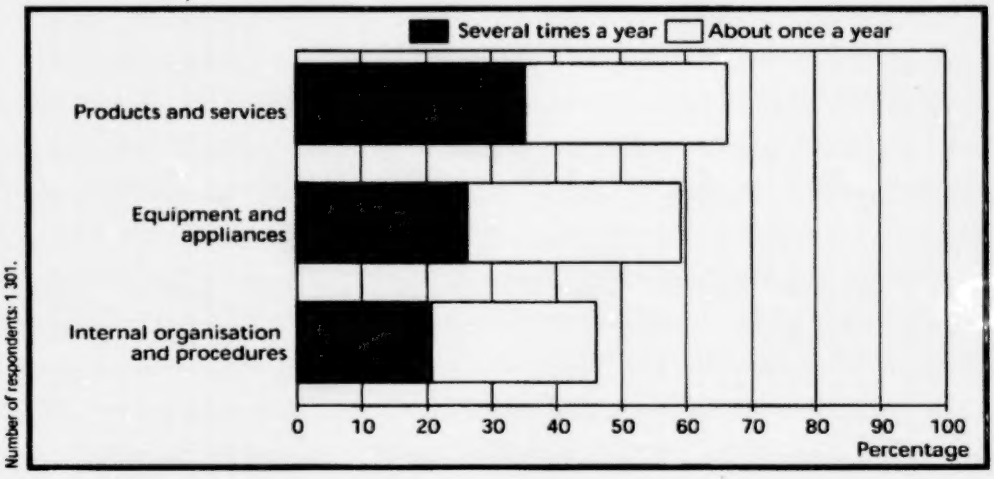

Diagram 13

Every year, two-thirds of employees find that they have to acquire new knowledge or skills because the products or services they work with have changed. Six in 10 experience this because of new machinery, equipment or devices in the workplace. Employees who experience the most frequent changes are also those with the most learning-intensive jobs.

Men experience a greater demand for the renewal of their competences due to new equipment or appliances. This is probably due to the fact that there are more men than women in technology-intensive workplaces.

Almost half employees need to acquire new competences in the course of the year due to changes in organisation or internal procedures. Organisational changes contribute somewhat less than technological changes to high learning intensity.

The survey shows that a lot of learning that develops in Norwegian workplaces is more a matter of keeping abreast of developments in markets, products, equipment and work methods, and as such, the purpose of renewing competence is not linked to reaching an ever higher 'level' in educational or career terms, but, rather, to staying updated in one's subject or vocation.

The total demands in respect of competence development are strongest in the service sector and large companies with more than 250 employees. The wholesale and retail trades and the hotel and restaurant industry clearly experience fewer demands than others.

5.3. Support from management and external contact promotes learning

Most learning-intensive jobs are characterised by management support and encouragement for learning and developing competence. Such jobs also provide a greater chance for professional contact with others and better opportunities for learning through feedback.

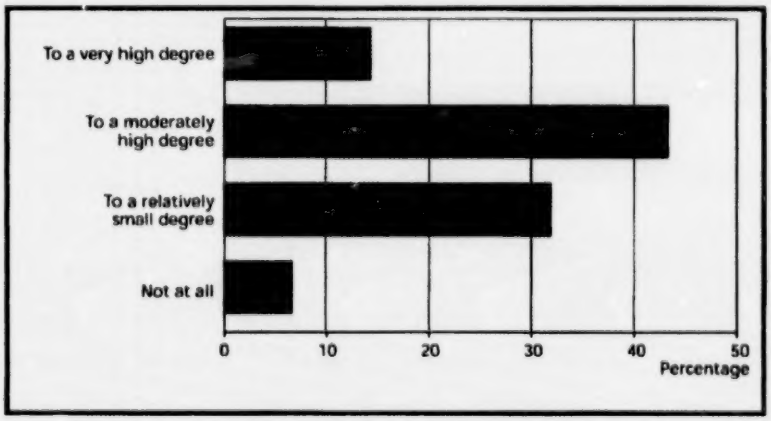

Diagram 14

Diagram 14 above shows the degree to which employees feel that management supports and encourages them to acquire new knowledge and skills.

Six in 10 experience a high or moderately high degree of support and encouragement from management as regards competence development, while four in 10 experience little or no support or encouragement. Employees with the most learning-intensive jobs, and those who are most exposed to demands and changes in their jobs are the same ones who experience the greatest degree of support and encouragement. To a certain degree, therefore, management support is 'need-driven.' So, it is the groups with a high level of education, and who have managerial responsibility themselves, that get most support and encouragement to develop their own competence. There are only small differences between women and men, companies facing strong and weak competition, the private and public sectors, and different age groups as regards such support. Those who get the most support tend to work in the service industries, whereas those who get the least support belong to the wholesale and retail trades, the hotel and restaurant industry as well as in transport. Employees in large companies with more than 250 employees get most support and encouragement.

Learning-intensive jobs are also characterised by more extensive professional contact with persons and milieus outside the employee's own company. Half of employees state that they have very good or quite good opportunities to participate in professional forums (trade fairs, conferences, etc.) outside their own company. Four in 10 state that they have weekly contact with customers or users from whom they learn something, while two in 10 state the same about suppliers of equipment or services.

The possibility of seeing direct results of one's work is an important source of learning. This possibility is much more prevalent in learning-intensive jobs than in others.

5.4. Responsibility and rewards promote learning

Companies may attempt to promote learning by rewarding proficiency in various ways, by delegating responsibility and by highlighting the negative consequences of lack of proficiency.

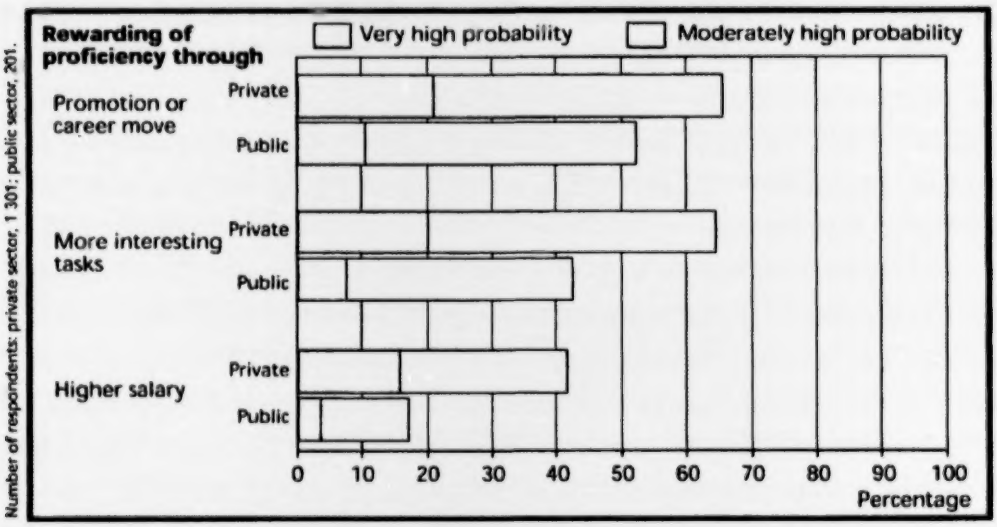

Diagram 15

Diagram 15 above shows the probability of more proficient employees being rewarded in various ways.

All three forms of reward are more prevalent in learning-intensive jobs. Proficiency is rewarded to a greater degree in the private sector than the public sector. In other words, incentives in the private sector are more closely linked to actual competence. Career promotion or more interesting tasks are the most usual forms of reward, while salary increases are less common, especially in the public sector.

It is most common to reward proficiency in service industries and in large companies facing keen competition. Rewarding competence development is least common in the smallest companies, in the wholesale and retail trades and the hotel and restaurant industry.

The survey also shows that jobs with managerial responsibilities are more learning-intensive than other jobs. This not only applies to top management. Forty-five percent of the sample group stated that they had some form of managerial responsibility. This fits in well with previous surveys. It is usual to have managerial responsibility in the smallest companies and in those facing keenest competition.

It is not possible to 'frighten' or 'threaten' employees into learning. Almost all employees are aware that poor quality in their work may have negative consequences. The most common consequences are negative feedback, financial loss for the business and loss of personal standing and prestige. Such negative consequences of lack of proficiency are more usual in learning-intensive jobs. Yet, despite the volume of demands and changes, and the amount of managerial responsibility etc., we can find no correlation whatsoever between learning intensity and negative consequences. This means that attempts to promote learning exclusively through negative feedback when mistakes are made probably has little effect. Negative consequences of lack of proficiency are thus not in themselves a learning condition.

5.5. Seven learning conditions

In the survey we have identified seven different conditions that promote learning through work. We refer to these as 'learning conditions' because they occur frequently in the most learning-intensive jobs, and far less frequently in low learning-intensive jobs. The learning conditions are described in more detail in the preceding pages.

1 High degree of exposure to changes	The degree to which employees are exposed to changes in the form of new technology and new work methods.
2 High degree of exposure to demands	The degree to which employees are exposed to demands from customers, management, colleagues or group/chain.
3 Managerial responsibility	The degree of managerial responsibility in the job.
4 A lot of external professional contact	The degree of opportunity to participate in professional forums outside the company, conferences, trade fairs, etc. How often employees learn through contacts with customers and suppliers.
5 Direct feedback	The degree of opportunity to learn through seeing direct results of one s own work.
6 Management support for learning	The degree to which the individual employee experiences support and encouragement for learning from management.
7 Rewarding of proficiency	The degree of opportunity to learn through seeing direct results of one s own work.

Diagram 16

These seven learning conditions do not constitute an exhaustive list of conditions that promote learning. We know from other surveys, for example, that good counsellors, or mentors, and the opportunity to learn through formal and informal groups promote learning. We lack a good measure for this in our survey, but assume that these learning conditions will vary in step with several of the seven learning conditions listed above.

The diagrams on the following pages should be read as follows: average jobs score 0 on each learning condition. The difference between learning-intensive jobs and average jobs is indicated by a percentage. The further towards the right we get, the greater the difference between learning-intensive jobs and average jobs, and the greater jobs are characterised by the differences in learning conditions. For example, learning-intensive jobs score 18 % more than average jobs as regards exposure to changes, i.e. there are a lot more changes in the most learning-intensive jobs. Similarly, low learning-intensive jobs score 23 % *less* than average jobs as regards exposure to various changes. The further to the left we get, the poorer the learning conditions.

5.6. Learning-conducive work: several conditions for learning met at the same time

Which of the seven learning conditions distinguish learning-intensive jobs from low learning-intensive jobs? How can we promote and facilitate learning through work?

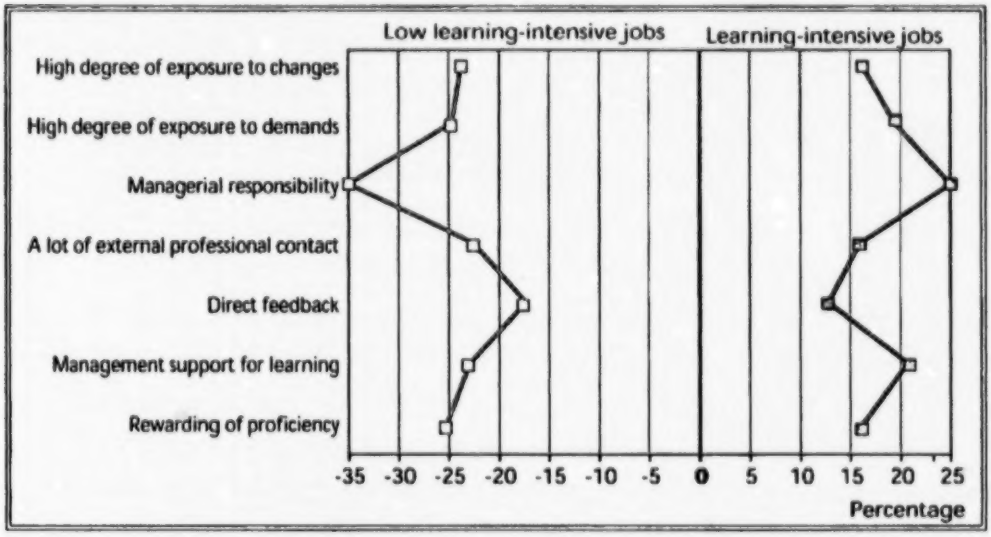
Low learning-intensive jobs
Learning-intensive jobs
High degree of exposure to changes
High degree of exposure to demands
Managerial responsibility
A lot of external professional contact
Direct feedback
Management support for learning
Rewarding of proficiency
-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25
Percentage

Diagram 17

Diagram 17 above shows learning conditions for both the group with learning-intensive jobs and the group with low learning-intensive jobs. The green line shows how learning-intensive jobs differ from average jobs for each of the seven learning conditions. The red line shows the same for the 25 % with low learning-intensive jobs.

Learning-intensive jobs score higher than average jobs for *all* the seven learning conditions. Low learning-intensive jobs score lower than average jobs for all the learning conditions.

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The material also shows that jobs with good learning conditions in one area often have good learning conditions in other areas. We get an accumulation of various factors that promote or facilitate learning in learning-intensive jobs, while these same factors are very sparse in low learning-intensive jobs.

When a job has low learning-intensity to start with, strengthening just one of the conditions will probably have little effect. Just introducing a wage system that rewards proficiency, or only improving the opportunity for participation in professional forums will probably not help much. It is the learning conditions as a whole (exposure to demands and changes, responsibilities, support, access to learning and the rewarding of proficiency) that characterise learning-intensive jobs. The organisation of work interacts with the human resources policy.

In addition to the learning conditions outlined above, the type of tasks performed is also significant. Jobs with more or less administrative content, development work or customer contact have higher learning intensity than other jobs. In other words, jobs can be made more learning-intensive by expanding them and adding new tasks, such as administration of own work, participation in development work or greater customer contact.

5.7. Learning conditions for women are poorer due to little managerial responsibility

As seen in Section 5, women have less learning-intensive jobs than men. If we compare women and men in terms of different learning conditions, we can see some of the reasons for this. Diagram 18 above shows how women's and men's jobs differ from average jobs as regards the different learning conditions.

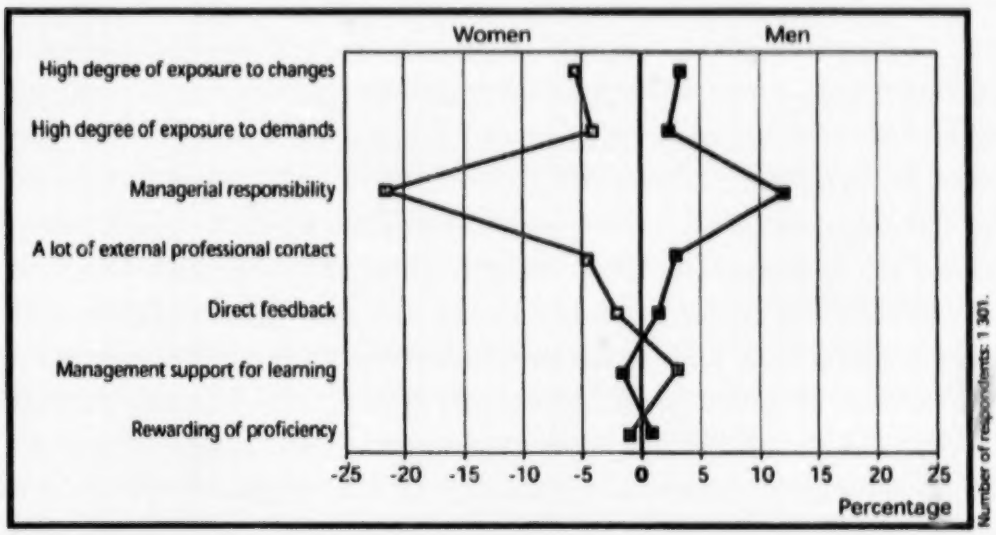

Diagram 18

Lack of managerial responsibility is an important reason why women, on average, have less learning-intensive jobs.

There are only small differences between women and men as regards the other learning conditions. However, with the exception of management support, there is also a slight tendency for women to score lower on the other learning conditions.

5.8. Greater demands and changes in companies exposed to competition

In Section 5 we saw that learning intensity is generally higher in companies exposed to keen competition. What is the reason for this?

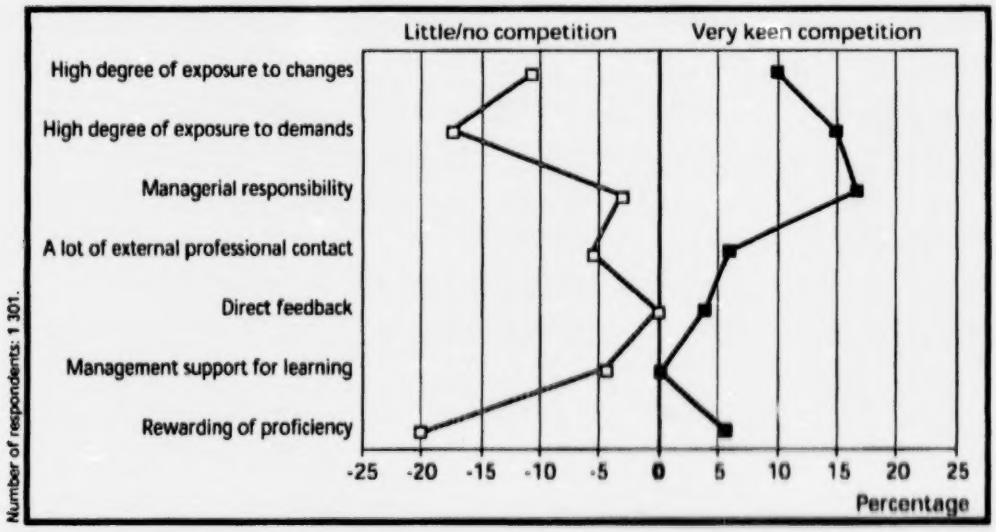
Little/no competition
Very keen competition
High degree of exposure to changes
High degree of exposure to demands
Managerial responsibility
A lot of external professional contact
Direct feedback
Management support for learning
Rewarding of proficiency
-25 -20 -15 -10 -5 0 5 10 15 20 25
Percentage
Number of respondents: 1 301.

Diagram 19

Diagram 19 above shows learning conditions in companies facing keen competition compared with average jobs, and learning conditions in companies with little or no competition compared with the average job. (Companies facing moderate or quite keen competition, i.e. the 'in-between groups' are not included).

Companies facing the keenest competition differ from the others in that their employees are somewhat more exposed to demands, *inter alia* from customers, and by the fact that a majority of them have managerial responsibility. Companies facing keen competition delegate managerial responsibility to a greater degree than others. In those companies facing least competition, employees are less exposed to demands and changes, and proficiency is rewarded to a lesser degree.

Employees in companies facing keen competition do not experience much better support for learning than employees in companies that do not face competition. It is conceivable that employees in companies facing competition do in fact receive more support, but that they also demand more of their management and thus do not perceive the support as being any greater.

The fact that learning conditions are somewhat better in companies facing keen competition is due to the fact that competition leads to innovation and learning. More pressure from the market and competitors may force the company to comply to a greater degree with the provisions of Section 12 of the (Norwegian) Working Environment Act, which lays down that jobs must provide opportunities for responsibility and professional development. At the same time this is probably accompanied by new types of working environment problems, such as more stress, and the exclusion of those employees who cannot cope with the pressure of constantly having to acquire new knowledge and skills.

5.9. Employees in large companies are more exposed to demands and changes

Why are there more learning-intensive jobs in the largest companies?

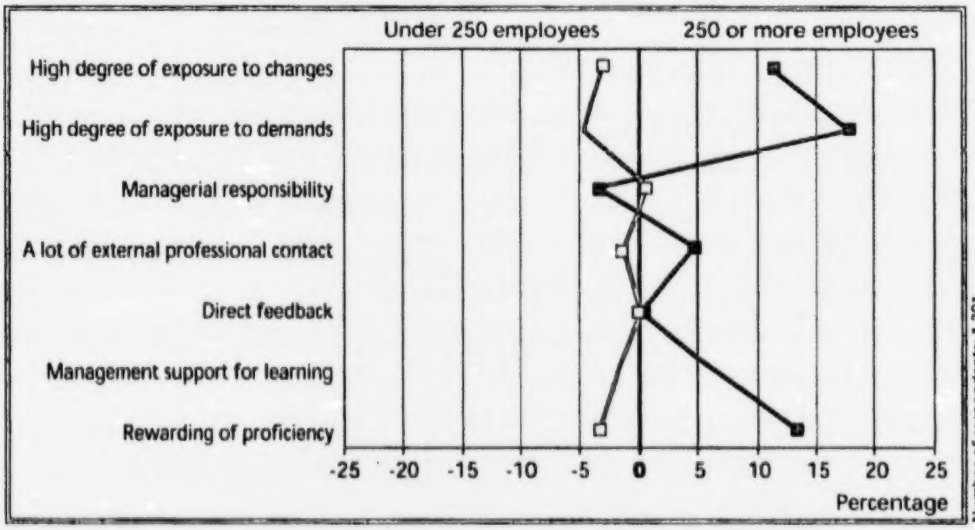

Diagram 20

Diagram 20 above shows how those who work in the largest companies perceive their jobs, compared with how average jobs are perceived.

Employees in the largest companies are more exposed to demands and changes than those in smaller companies. The largest companies are also the ones that reward proficiency the most.

5.10. Different industries have different learning conditions

Learning conditions can also be used to examine differences between industries. Some are subject to rapid technological changes and this generates one type of learning demand and learning opportunity. In other industries employees are given managerial responsibilities at an early stage, with the learning and development that accompanies such responsibility.

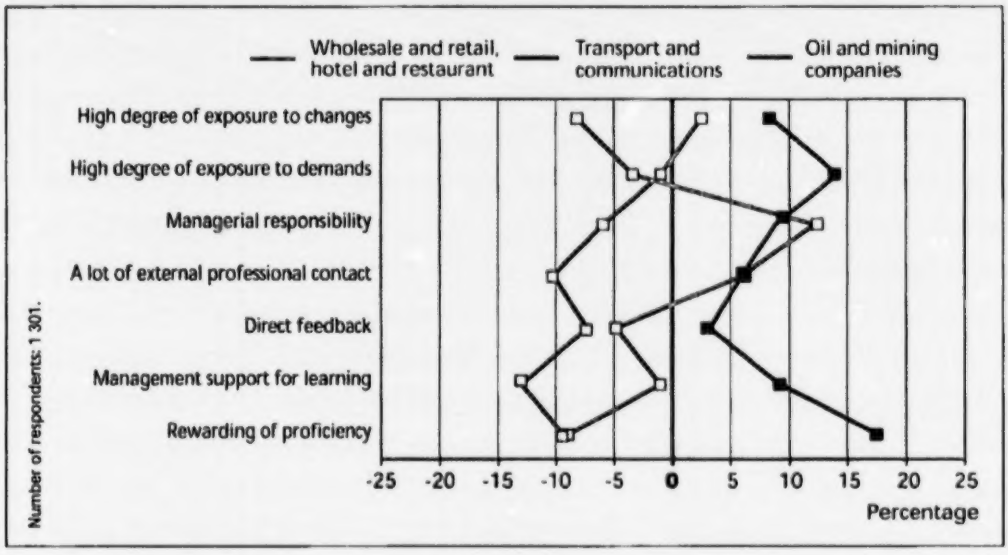
Wholesale and retail, hotel and restaurant
Transport and communications
Oil and mining companies
High degree of exposure to changes
High degree of exposure to demands
Managerial responsibility
A lot of external professional contact
Direct feedback
Management support for learning
Rewarding of proficiency
Number of respondents: 1 301.
-25 -20 -15 -10 -5 0 5 10 15 20 25
Percentage

Diagram 21

Diagram 21 above shows the learning profile for three of the industries in the survey.

Learning conditions in the oil industry are generally better than average. This industry scores well especially as regards exposure to demands, management support, encouragement for learning and the rewarding of proficiency. The opportunity for feedback through work is more or less the same as in the other industries.

Learning conditions in transport and communications are generally poorer than average. Management provides markedly less support for learning than is given, for instance, in the banking and insurance sector.

Wholesale and retail trades and the hotel and restaurant industry score somewhat below average for most learning conditions, but compensate by giving more employees more managerial responsibilities than is usual in other industries. Despite the fact that many are given managerial responsibilities, proficiency would appear to be rewarded to a lesser degree. This may be an indication that employees do not perceive any clear connection between proficiency and being given managerial responsibility.

5.11. Most learning takes place where both pressure and support are present

As shown above, the most learning-intensive jobs are characterised by all seven learning conditions being present to a relatively high degree. We may assume that interaction occurs between them.

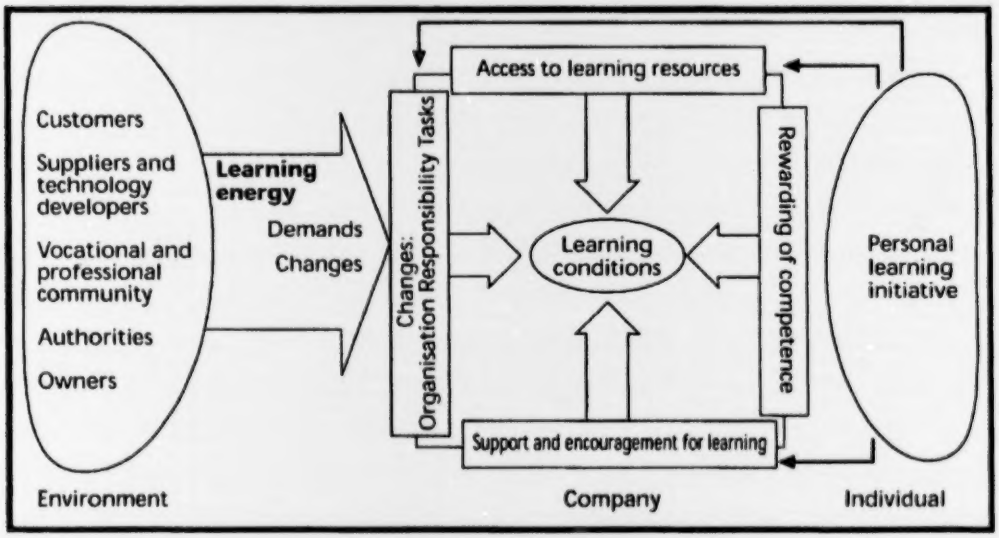

Diagram 22

Diagram 22 above shows how we assume that the various learning conditions are connected.

Demands and pressures on the company are the driving forces behind learning – from customers, suppliers, owners, authorities or the vocational and professional community that defines professional standards. When the demands are stringent, the changes great or the standards high, the driving forces will be stronger. We can talk about a kind of learning energy generated by the different bodies making demands on the company. Customer demands, technological developments at the suppliers, ownership constellations and the regulatory situation, vary with the degree of competition between different industries. The quantity of learning energy varies correspondingly. If the company is not connected to such 'sources of energy,' the impulse to learn will be less powerful.

The quantity of learning energy to which the individual employee is exposed depends on how much he or she is protected against or exposed to such driving forces. Employees may be exposed directly by being confronted by customers wanting as much as possible for their money, inspectors demanding compliance with regulations, owners demanding a good return on their investments or colleagues demanding a high professional standard of work. Exposure

may also be indirect, with the demands being communicated via managers, internal customers or professional cultures.

Exposure depends on how the company is organised and the tasks distributed. We know from other research that it is becoming more common to expose employees more directly to their surroundings. Operators receive customer orders directly instead of having them passed on by a foreman and they contact the suppliers themselves, etc. Company borders are gradually becoming more transparent or penetrable. Traditionally, the majority of employees have been more 'protected' behind managers, experts, sales departments and other links in the organisation, which sort information and make professional decisions. These links have acted as buffers against the learning energy generated by external demands, and gotten in the way of the learning impulses that can result from this kind of external demand.

If on-the-job pressure is to result in learning and mastering new competences, not just stress due to the impossibility of coping with demands, employees must have resources available in the form of learning opportunities plus the time to utilise these resources. Some examples of important learning resources are professional counsellors and experts, competent colleagues, vocational or professional networks, databases or specialist periodicals. Feedback through work is an important learning resource in this context. Employees seek out and use these resources more actively when exposed to greater demands.

The amount of learning energy to which an individual or group is exposed may be increased by delegating responsibility and rewarding proficiency. Penalising lack of proficiency may also be a tool that, in some cases, is laid down by law (for example, a doctor may be criminally liable for malpractice). As we have seen, however, this is probably the least effective tool in encouraging learning.

The learning energy to which the individual is exposed may be reduced correspondingly by removing responsibility, ignoring proficiency and protecting the employee against the consequences of lack of proficiency.

In addition to the learning energy generated by customers, suppliers, owners, managers and colleagues, most employees will also have an individual driving force or desire to learn on top of the learning energy generated by the job situation. This type of individual learning initiative varies with age, education and a person's situation in life. The company can utilise this individual learning energy by giving the individual in question the opportunity to pursue professional interests and desire to learn.

The survey also shows that persons with plenty of individual learning initiative adapt their jobs to create better learning conditions more than others in the same type of job. This probably means that most jobs provide scope for individual adaptation. This scope enables employees with plenty of personal initiative to seek out more demands and changes, more professional contact, better feedback, more management support, and so on. The survey tells us that persons with a lot of personal learning initiative have more learning-intensive jobs.

6. Learning through work or at school?

The two most important places for learning in our society are at work and in the educational system. These two places complement each other, and we need both. A lot is being done in the field of continuing education to secure better distribution and give employees more opportunity to continue their education. Leave of absence for this purpose and funding schemes are key words in this context. In this chapter we ask how many employees would prefer to learn through work? Which groups does this apply to? How is the desire for various forms of learning connected to the underlying motives for competence development, such as career, salary and proficiency at work?

6.1. Almost all members of the working population think it is important to learn more

It is often said in public debate that some groups of employees are not very motivated or do not want to learn. How many actually think learning is important for them as employees?

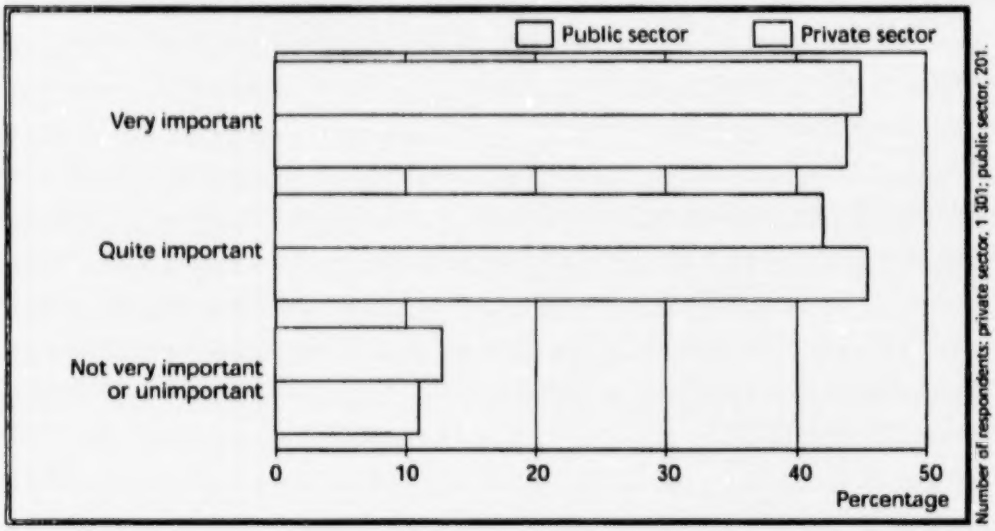

Diagram 23

Diagram 23 above shows how many people think that learning more, either through work or at school or college, is very important, quite important or not very important/unimportant for them as employees.

Nine in 10 state that learning more is very or quite important for them as employees. The results for the private and public sectors are more or less the same. The group that regards learning more as not very important is small.

Learning is most important for those between 30 and 34, and those with a high level of education. It is least important for those aged 45 and over. There is no difference between the sexes.

Employees in the largest companies, with more than 250 employees, attach greater importance to learning than others. The same applies to employees in groups/chains, but this difference disappears when we check for size. Employees in service industries think learning is more important, and employees in the manufacturing industries think it is less important than others.

Those who have the best learning conditions at work think it is most important to learn more.

6.2. The most important driving force for learning is to become better at your job

What are the most important reasons for members of the working population wanting to acquire new knowledge and skills? We put the question to the respondents who said it was quite important or very important for them to learn more.

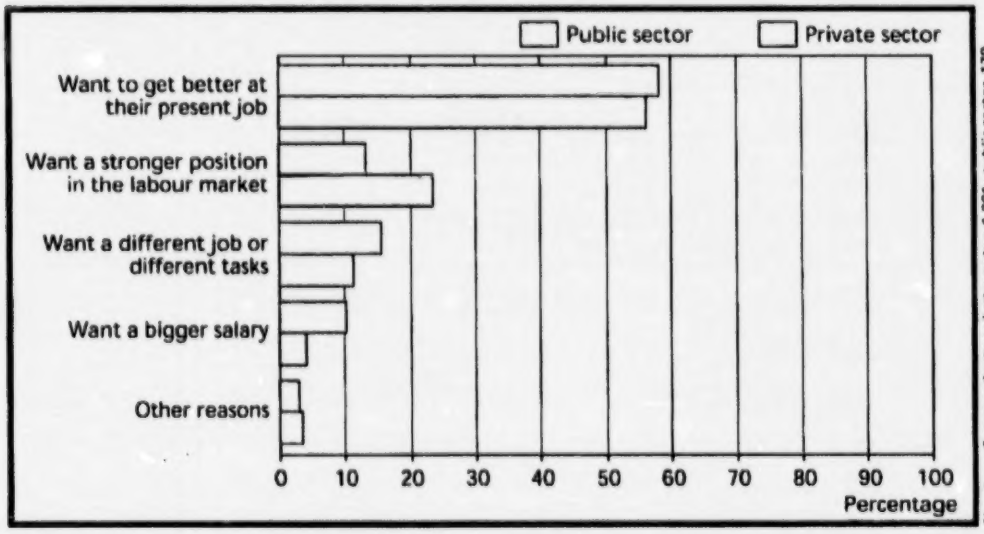

Diagram 24

Diagram 24 shows what employees cite as the most important reasons for learning more.

The desire to become better at one's job is by far the most important reason why employees want to learn more. Well over half cite this as the most important reason. Men and women in all age groups, from all types of educational background and from both the public and private sectors cite this as the most important reason for acquiring more competence. It is therefore

the work in itself, the demands made, the desire to keep updated and to do a good job that is the most important driving force behind the desire to learn as an adult. In the private sector there are rather more men than women who give this response, while the opposite is the case in the public sector.

The need to achieve a stronger position in the labour market is the second most important impulse to learn more. One in four cites this as the most important reason. In the public sector only one in eight cites this as the reason. This difference is probably due to the fact that there is less job security in the private sector. When jobs are insecure, it is natural for employees to want to strengthen their position with respect to actual competence and formal qualifications in order to be as well-equipped as possible to apply for a new job.

In the private sector, salary and career aspirations are less important driving forces for learning than competence at work and the desire for security in the labour market. Career is most important for the youngest age group (18 to 30), in which one in five cites it as the most important reason. However, in this group too, there are twice as many who cite being proficient at their job as a reason. The same applies to men with little education in the public sector.

6.3. Learning is more than school and education

Competence can be acquired in several ways – through work, through short relevant vocational courses or through the formal educational system. Which form do employees prefer? Which groups want a formal education and which would rather learn through work?

Diagram 25 shows how many prefer each of the different learning methods. The answers are based on those who state that learning more is very important or quite important, i.e. 87 % of respondents.

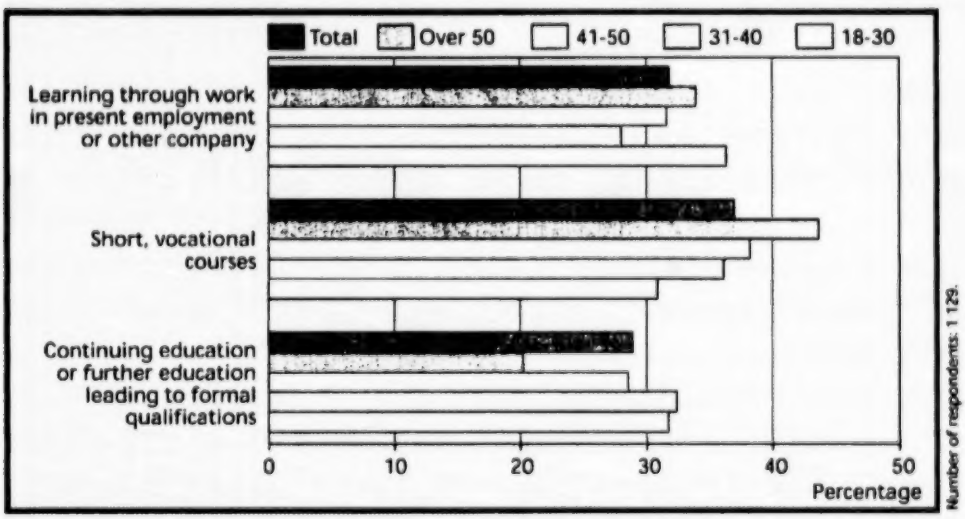

Diagram 25

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Employee needs are relatively evenly distributed between the three forms of learning: 37 % prefer short courses; 32 % prefer learning through work; while 29 % prefer formal education. Differences between the sexes are small.

The interest in formal education is clearly lowest in the over 45 year-old age group, with only 20 % preferring this option. The 30 to 35 year-olds are clearly most interested in formal education, with 39 % saying so. The difference between the young and old can probably be explained in part by the fact that education can be regarded as an investment with less and less return the older you are. Another probable reason is the elapse of time since older employees went to school and many of whom will have a low level of self-confidence as regards this type of learning. Some may also have bad memories of school.

Those with the least formal education are least interested in further formal education. Those with a moderately long education are most interested in formal education.

The desire for formal continuing education and further education is greatest in those who cite a new job or other tasks as the most important reason for learning. Among those wanting to become better at their jobs, 41 % state they prefer short courses; 33 % would like to learn through work; and 25 % would like formal continuing education or further education.

Young, highly educated women working in the public sector are most in favour of formal education. Seen as a whole, public-sector employees are far more formal education-oriented, with as many as 41 % preferring this form of learning. This can probably be explained by the fact that the salary and promotion systems in the public sector are based on formal qualifications to a much greater degree than in the private sector. In the health service, for instance, work tasks are decided to a great degree by formal qualifications. In the private sector, actual competence may be used to a greater extent in career building.

Elderly employees with little education form the group that regards learning as least important, and is least interested in formal education. To promote competence development and consider the needs of this group, it will be more important to make short courses available and facilitate learning through work as opposed to expecting them to participate in the ordinary educational system. This does not, of course, mean that formal education is unimportant, but that the total resources expended on this group should probably take account of its preferences. If short courses and learning through work are to be rewarded in the form of respect, salary or career, and if such learning is to be recognised in the labour market on a par with formal education, then systems will have to be developed for documenting actual competence.

7. Documentation of actual competence

The need for documentation of actual competence has been recognised ever since the (Norwegian) Adult Education Act was adopted in 1976, without it having produced much in the way of practical schemes. Any expansion of documentation schemes will probably depend on employers being able to see practical benefits, which means that all schemes must take companies as venues for learning seriously. Can documentation systems provide support for the competence development companies are dependent on? Can quality assurance of learning conditions in companies strengthen the documentation sought by individuals?

7.1. Those aged from 30 to 40 with little education have the greatest need for documentation

How great is the need for documentation of actual competence gained through work? In which groups is the need greatest, and in which is it smallest?

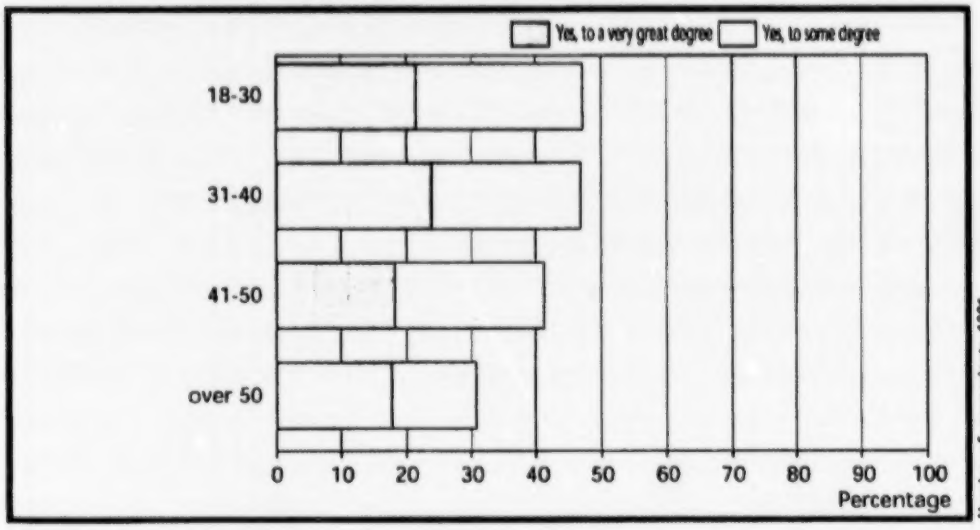

Diagram 26

Diagram 26 above shows to what degree employees, through their daily work, in various age groups have acquired knowledge and skills they think should be documented.

Four in 10 say they have acquired competence through their work which they would like to see documented. The ratio is the same in the private and public sectors. A great desire for such documentation is expressed by one in five in the private sector – in the public sector the figure is one in seven.

Those with the least education have the greatest need to have their actual competence documented, which is probably why those with higher education already have documentation of value in the labour market. Men have a somewhat greater documentation need than women. In the private sector, the need for documentation is greatest in the 30 to 40 year-old age group and smallest among the over-50s. In the public sector, it is the group between 40 and 50 that has the greatest need for documentation.

Those who have the greatest desire for documentation of actual competence, have better than average learning conditions measured along all seven dimensions. This indicates that the need to document competence is founded on actual learning processes.

Those with the greatest need for documentation are also those with the greatest desire for formal education. This indicates that good documentation schemes may reduce the need for lengthy courses of education.

7.2. Arguments in favour of documentation of actual competence

The objectives of documentation schemes have developed over time. However, the formal educational system's concept of competence continues to prevail in the new schemes. There is a great deal of focus on the transition between school and work and less focus on company-oriented schemes.

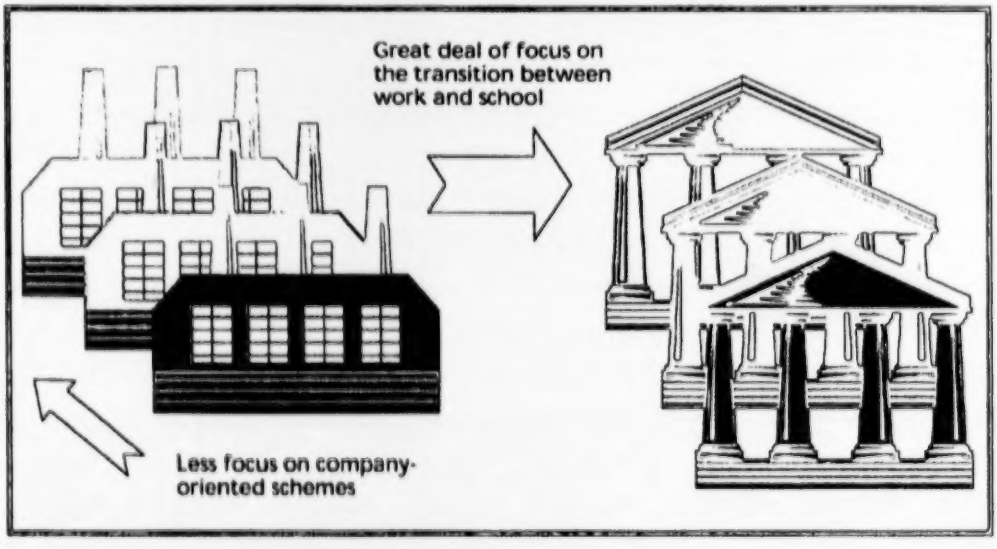

Diagram 27

Traditionally, reasons for documenting actual competence have been linked to the transition between work and school. This was the case when the Adult Education Act was adopted in

1976, and again in 1985, when an official report readdressed documentation schemes. The focus was on external candidate schemes and a shortening of the period of study (NOU 1985:26: Documentation of knowledge and skills).

With Norway as a 'competence society' as the starting point, collaboration between the parties involved and the public authorities has put documentation of competence on the agenda for the third time. The rationale for finding practical schemes has been extended. Approaches addressing individual rights have been supplemented by numerous arguments stressing the importance of workforce mobility and the competence-society's need to be able to utilise the whole pool of competence in the population.

As part of the competence reform, various projects have been initiated and documentation schemes tried out in several counties. However, in accordance with the lines drawn up by Report No 42 (97-98) to the Norwegian Parliament and the Mjøs Committee's report (NOU 1999:17), most of them still concentrate on the transition between work and school. The few that address the workplace more directly concentrate primarily on schemes that may help the individual employee to gain increased mobility in the labour market through more comprehensive employment references and an improved CV.

7.3. Goals and purposes of new documentation schemes

The purpose of setting up documentation schemes can be summarised as shown in the table below with the main perspective basically on either individual employees or company-oriented schemes.

	Purpose of documentation of actual competence	Examples of approaches
Individual	Recruitment to the educational system and exemption from or shortening of the period of study on the grounds of actual competence	· County-based centres for accreditation of prior learning · Entrance criteria to schools based on actual competence · External candidate schemes
Individual	Labour market mobility	· More comprehensive employment references · Personal skills card · Certified CV
Company	Promote good learning environments in companies	· Use of the model for external candidates with practical experience (Section 20) in new disciplines and at new educational levels · Documentation of learning conditions in companies which may be used by approval centres and included in employment references · Certification of the company as a venue for learning

Diagram 28

Many documentation schemes target the individual, taking little account of the needs of the business community. Employers have a clear interest in labour market mobility facilitated by schemes providing reliable information about the actual competence of an individual. We have the impression, however, that the employer's primary interest is often linked to developing and reinforcing actual competence and developing the learning environment in their own companies.

More knowledge about the conditions for learning-conducive work, as presented in Chapters 4 and 5, provides an opportunity to promote learning through quality assurance of the learning conditions, thereby strengthening the company as a venue for learning. By utilising learning conditions as an element in the individual documentation schemes, it is possible not only to document the individual's competence, but also to promote the learning environment as a whole.

7.4. Practical experience candidates – a model for including both the company and the employee

The Fafo report on 'Certification of own competence' in principle reviews three approaches to the documentation of actual competence.

Log models	• Portfolios • Summing up, e.g. employment references • CV
Appraisal models	• Examinations, tests • Approval centres • Appointment procedures in companies
Option models	• Practical experience candidate schemes • Practice-based models of further education within some professions

Diagram 29

1. **Log models** can provide valuable information, but often have the drawback of not targeting a specific group. Moreover, they do not usually promote further learning unless they are so detailed and frequent that this in itself encourages the processing of experience and reflection. The report from the Mjøs Committee (NOU 1999: 17) proposes *inter alia*

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the development of a standardised 'log-based' system as a selection criterion for entering higher education.

2. **Appraisal models** are often more specific and may focus on that part of competence that is of interest. It may lead to other aspects of actual competence being disregarded and not documented to the same degree.

3. **Option models** have a more dynamic effect. Documented experience may be exchanged for formal competence – an option in return for a certain extra effort. There are requirements regarding both the length and the quality of the practical experience. The extra effort typically involves both the employee and the workplace, promoting both individual learning and the development of the environment in which the learning takes place.

The practical experience candidate scheme (trade certificate pursuant to Section 20 of the former Act on Vocational Training) is a good example of an option model. Similar models are found in professions such as psychology and medicine. Experience that meets specific requirements is credited as part of a specialist education. Requirements are made regarding the type of practical experience, i.e. the tasks and challenges involved, whether candidates have worked within an accredited organisation, whether they have received counselling by certified personnel.

By applying what we know about the conditions for learning-conducive work, it will be possible to quality- assure the learning environment by extending the practical experience candidate scheme to new trades. By stipulating requirements for both practical experience and the learning venue, we will have a greater degree of assurance that the desired learning is taking place.

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7.5. How can the learning conditions be used in documentation schemes?

The purpose of a documentation scheme is the transfer of reliable information about a person's actual competence. There are several ways of doing this.

Competence test	We find this approach in examinations, entrance examinations and certain thorough appointment procedures in companies
Description of how competence is applied	This is an important element, both in CVs, employment references and accreditation schemes. Competence is manifested by describing the tasks and issues worked on
Description of what has been attained or achieved	Documentation of competence through the results of its application
Description of the ways in which the competence is acquired	Typical elements of this are a description of the learning environment, the length of time spent there and the main activities which the person has performed

Diagram 30

The four approaches all have different weaknesses, and in practice we often see combinations whereby formal documentation is supplemented by informal information that increases its reliability or value. Passing an examination is one thing. Having done so at a school with a good reputation is another. Job experience from a company with a good reputation will sometimes count more than experience from a lesser-known company, or one with a poor reputation.

Appraisal schemes or interpretation of a comprehensive employment reference presuppose the ability to form a clear picture of actual competence based on relatively unsystematic information about knowledge and experience acquired through years of practical experience. Supplementary information about the learning environment in which the person has worked may increase reliability.

The learning conditions examined in this report provide important dimensions along which the learning environment can be described. The content of a job can be supplemented by a specification of prevailing learning conditions. This can be done in two ways:

(a) a form of evaluation or review when the documentation is being drawn up;

(b) quality assurance of the company by an independent institution.

In an accreditation process, these questions can be addressed in different ways. A selection board or approval centre may ask to see an evaluation of the learning environment or learning conditions, to be included in a comprehensive employment reference (as shown in the diagram on the next page), and by using detailed subquestions to provide guidance about what to include. The idea is to give a reliable and probable description of what the practical experience was like.

We know from previous studies that companies that seem to succeed in systematic competence work attach a great deal of importance to what we have called focus steering, i.e. ensuring that the company and its employees focus strongly on the importance of competence and learning opportunities. Introducing a systematic company evaluation in relation to learning conditions will interact with such focus steering, thereby also contributing to development of the learning environment within the company.

7.6. Quality assurance of the company as a venue for learning

Our survey indicates that it is possible to quality assure the company as a learning arena. It makes sense to speak of learning-conducive work, and a set of learning conditions has been identified. The learning conditions could form the core of a quality assurance system that enables us to draw up a profile of the company's learning environment.

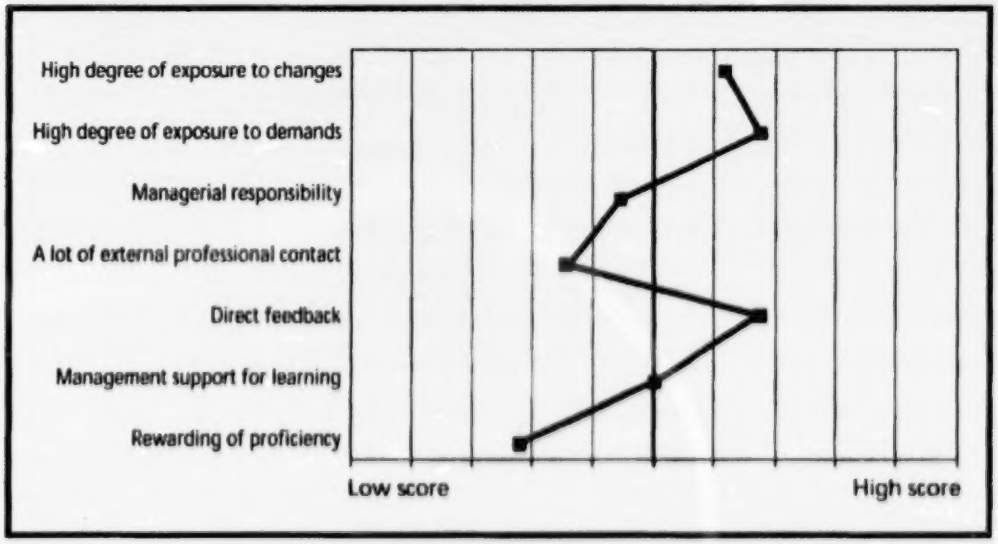

Diagram 31

This report has demonstrated the importance of the company as a place of learning and its role as a competence producer. However, there are great variations between and within companies. Just as it is important to speak of quality improvement in the educational system, it is also important to improve the quality of the company as venue for learning. When we think in

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terms of quality assurance, we are applying the business community's own working methods for assessing important processes.

Quality assurance may take the form of internal company systems. By expanding on and specifying learning conditions, companies can acquire a knowledge base on which to build their internal quality assurance. To achieve a societal dimension, it might be a good idea to look for incentives that make it attractive for the company to quality assure its own learning environment.

Quality assurance may also take the form of formal certification schemes. This presupposes the existence of an authorised and recognised body that can be in charge of certification and give it a reliable content. A certification scheme will be a major plus where the company environment is used, for example, by approval centres, schools, or in extended practical experience candidate models.

It is also conceivable that the learning conditions can be used in various types of benchmarking systems. When systematised, the learning conditions will enable companies and industries to measure their attainments for comparison with others and to track their own development over time.

In societal terms, the learning conditions can be used for monitoring learning opportunities for various groups of employees. By measuring development of the learning conditions over time, it will be possible to monitor the effects of measures that aim to promote learning through work.

We began this report by referring to the importance of the company as a venue for learning. Schemes for quality assuring the learning environment may produce many positive results.

(1) They may provide support for recognition of the company as a valuable place of learning that is proportionate to the important production of competence that actually takes place during working life.

(2) In economic terms, focusing on and improving this most important learning environment, may be more profitable than developing other completely new places of learning.

(3) There is a close correlation between the company as a place of learning and the company as a financial result unit. Given the operational concept of competence development which is common in the workplace, we can assume that quality assurance of learning will also affect companies' financial results.

(4) The reliability of other schemes for accreditation of prior learning can be enhanced by including information about the learning environment in which the person concerned participated.

(5) Company-oriented measures such as quality assurance will automatically embrace all employees, not only those who personally take the initiative to increase their competence and to have their prior learning accredited.

8. Learning-conducive work: Fafo report

The report presents the results of a questionnaire survey about learning in the workplace. The purpose of the report is to increase our knowledge of the conditions that characterise learning-conducive work, and discuss how this knowledge can be used to promote and accredit prior learning gained through work. The concept of learning conditions is introduced as an important tool in the understanding of learning processes in the workplace, and as a method for examining the learning environment in companies.

The report deals with the following issues:

- What is learning-conducive work?
- In which industries/sectors and types of company do we find learning-conducive work?
- How is learning-conducive work distributed among different groups of employees: men and women, young and old, more education or less?
- Is it possible to identify any characteristics of companies or jobs that are particularly instrumental in the promotion of learning through work? Is learning the result of ample access to resources or a demand for learning and development from the surroundings? What are the most important conditions for creating learning-conducive work?
- How can companies promote learning through work?
- How do employees prefer to acquire the competence they need - through education and courses or through learning at work?
- How can knowledge of learning-conducive work be applied in a national system for the accreditation of prior learning?
- Can documentation and quality assurance of the learning venue play a role in a national accreditation system? Can such quality assurance help to promote the workplace as a learning environment and make it more efficient and acceptable?

The report was commissioned by the Confederation of Norwegian Business and Industry and produced in cooperation with Fafo Institute for Applied Social Science and In Mente AS.

Fafo

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PANORAMA

Learning-conducive work

A survey of learning conditions in Norwegian workplaces

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